

Message

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Subject: NYT: A Flame Retardant That Came With Its Own Threat to Health

Hi all – I read this article on TRIS over the weekend in the NYT. The article references an interesting editorial Linda Birnbaum wrote in EHP that recently published. The links are provided below.

Thanks!

Dahnish

Link to NYT Article (with video): <http://www.nytimes.com/2015/05/04/us/a-flame-retardant-that-came-with-its-own-threat-to-health.html>

Link to Linda Birnbaum's editorial in EHP referenced in the article below: <http://ehp.niehs.nih.gov/1509944/>

U.S.

A Flame Retardant That Came With Its Own Threat to Health

MAY 3, 2015

If you closely examine your living room couch, your favorite easy chair or your child's car seat, the odds are strong that you will find upholstery that is filled with polyurethane foam treated with a chemical flame retardant. Some may find that comforting: Isn't it desirable to hold an accidental fire at bay, one caused by, say, a burning cigarette or faulty electrical wiring? But studies show that many flame-

resistant chemicals loom as potential health menaces, associated with cancers, memory loss, lower I.Q.s and impaired motor skills in children, to name a few woes. Isn't it just as desirable, some would also say, to keep such substances out of people's lives?

On the surface, this may seem like a struggle between worthy goals of equal merit: forestalling household fires on one hand, preventing toxic contamination on the other. But this new installment of Retro Report, a series of video documentaries examining major news stories of the past and their consequences, suggests that the surface impression presents a false equivalence. Health risks linked to some of these chemical compounds have been growing while their fire-detering value has been called into serious doubt.

To frame the issue, the video goes back to the early 1970s and a controversy that older Americans may recognize from a single word: Tris. Chemists know it as Tris(2,3-dibromopropyl) phosphate. Under the shorter sobriquet, it gained national fame as a flame retardant in children's pajamas. Its purpose was to buy precious seconds that, in a fire, might spell the difference between survival and death.

But fame turned to notoriety later that decade when research by two scientists, Arlene Blum and Bruce N. Ames, concluded that Tris is a mutagen, a gene-altering agent. The federal Consumer Product Safety Commission, a new agency in the '70s, promptly prohibited its use in the sleepwear. Even though the courts then struck down the ban, children's clothing manufacturers in effect enforced it by agreeing to keep that form of Tris out of their products. They then did the same with a new version of the compound, chlorinated Tris. But chlorinated Tris itself was never banned. As time passed, it made its way, along with an array of other chlorinated and brominated flame retardants, into the furniture found in most American homes.

The gateway for this development was a 1975 California regulation known as Technical Bulletin 117. Upholstery foam is highly combustible. The California regulation required it to withstand a small flame — from a cigarette lighter, for instance, or a candle — for 12 seconds. To pass that test, furniture makers treated naked foam with large quantities of chemical retardants. By dint of the sheer size of California's marketplace, the 12-second flame rule effectively became the national standard.

The problem with this mandate, researchers later concluded, was that it did not reflect real life. Who takes a match directly to the foam inside a sofa cushion? What catches fire first is the fabric encasing the foam. And when that fabric is ablaze, the flames are intense enough to overwhelm whatever retardants coat the foam. So much for any fire-deterrence benefit.

As for the chemicals' health impact, concerns kept growing. That is because the retardants do not chemically bond with the foam. Thus, they do not stay snugly inside cushions and mattresses. They escape into the environment. When someone sits on a couch, air that bears chemical traces is expelled from the upholstery. Those substances settle on household dust, or drift outdoors, or find their way into rivers and even into mothers' breast milk. Small children, known to put almost anything in their mouths, are particularly vulnerable as they play on floors that have veils of chemically tainted dust.

“Some of the effects that we’re seeing are effects on the developing nervous system,” Linda S. Birnbaum, director of the National Institute of Environmental Health Sciences, told Retro Report in discussing some of the chemicals. “We’re seeing effects on the developing reproductive system. In a population of children that have been exposed to the flame retardants, those children have lower I.Q., more difficulty in learning.”

Nonetheless, chemical manufacturers assert that flame retardants are proven lifesavers. “The number of reported home fires has dropped by 50 percent since these products were introduced to the market,” said Steve Risotto, a senior director of the American Chemistry Council, an industry group. “Flame retardants delay the start of a fire, you know, by half a minute or longer.”

Other factors, though, also explain the decline in house fires. For one thing, a principal culprit in such fires has long been carelessness with cigarettes. But smoking habits have greatly changed; the share of American adults who puff away dropped to 17 percent in 2014 from 42 percent in 1965, according to the Centers for Disease Control and Prevention. Also, some cigarettes today are self-extinguishing. Smoke detectors, too, save lives.

A series of articles by The Chicago Tribune in 2012 brought new attention to flame retardants, much of it damning. In the wake of those reports, California (to the chemical industry’s dismay) amended its standard for fire resistance. The test now is whether a couch or chair can withstand not an open flame but, instead, a smoldering object like a cigarette. With this change, the need to pump chemicals into upholstery was reduced. Indeed, some newer furniture being brought to market is retardant-free.

Still, unknowns abound. Regulating chemicals has always been a thorny proposition. More than 80,000 of them are registered for use in the United States, including flame retardants, but federal inspectors have tested only a tiny fraction. Lately, environmental researchers have expressed health concerns about a new generation of chemicals known as PFASs, short for poly- and perfluoroalkyl substances, which are commonly found in footwear, electronics, sleeping bags and many other consumer products. Although the chemical industry insists that these materials are safe, Dr. Birnbaum and other scientists have questioned whether that is in fact so.

The prevailing law, the Toxic Substances Control Act of 1976, authorizes the government to step in only after a substance’s potential for harm has been demonstrated. The industry is under no requirement to submit its products for federal blessing in advance of marketing them. Nor is the chemical structure of these compounds detailed in consumer labels. In the main, any regulation has been left largely to the states. While legislation now before Congress would strengthen the federal government’s hand, it would also block states from setting tougher regulations of their own.

Not a single flame retardant has ever been banned outright by the government. Any phasing out of a substance like Tris was done voluntarily by the industry, albeit usually only after the hazards were clearly demonstrated. Now, new generations of compounds are in play, pronounced safe by Mr. Risotto of the chemistry council. “If you look at the products that are currently available today,” he told Retro Report, “there is not a scientific consensus that there is an impact on

human health at the levels that we encounter in homes.” Of course, one reason for the absence of scientific consensus is that few of those substances have been tested by independent researchers. With newer chemicals, “scientists have struggled to keep pace with studying their health risks,” an article published in Scientific American observed in 2013.

In the meantime, children’s sleepwear must still be treated with flame retardants, one exception being if it fits tightly on their bodies. And countless couches and chairs that consumers bought years ago remain in use, their cushions and padding awash in suspect chemicals. Couches are not, like pajamas, easily tossed out. Families tend to hold on to them for decades. To go by the warnings from scientists like Dr. Birnbaum, people on their sofas have no reason to believe they are sitting pretty.

The video with this article is part of a documentary series presented by The New York Times. The video project was started with a grant from Christopher Buck. Retro Report has a staff of 13 journalists and 10 contributors led by Kyra Darnton. It is a nonprofit video news organization that aims to provide a thoughtful counterweight to today’s 24/7 news cycle. Previous episodes are at nytimes.com/retroreport. To suggest ideas for future reports, email retroreport@nytimes.com.

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